Listing of Claims:

1. (Currently Amended) An application development system for a medical imaging system, which comprises:

a component library for storing components written in an object-oriented programming language, wherein one or more component includes at least one connection point for receiving an input or providing an output and wherein each component provides a predefined function; and

a graphic building area, wherein a user selectively moves components from the component library to the graphic building area and selectively graphically links at least one connection point from a selected component to a connection point of another of the selected components, the graphical link providing a software reference to each of the selected components to define an executable application, the graphical links being modifiable during operation to provide an executable application segment; and

a component for serializing and downloading the executable application to the medical imaging system.; and

a component for serializing and downloading the executable application segment to the medical imaging system to modify the executable application in real time.

2. (Original) The system as recited in claim 1 in which the components are displayed as icons.

3. (Canceled)

4.   (Canceled)

5.   (Original) The system as recited in claim 2 which includes a property display which enables a user to verify the properties of the component icon by selecting the icon with an input device.

6.   (Canceled)

7.   (Original) The system as recited in claim 6 in which the connection points of the components are displayed as icons linked to the components.

8.   (Original) The system as recited in claim 1 in which the object-oriented programming language is Java™ and the medical imaging system is programmed to translate the executable application to at least one of a C or a C++ program for real-time execution.

9.   (Original) The system as recited in claim 1 in which the components include a serialization component, the serialization component allowing a user to transfer code from the application development system to an application server.

10.   (Original) The system as recited in claim 1 wherein the component library further comprises an external communications link for receiving components and applications transmitted from an external central processing unit.

11.   (Original) The system as recited in claim 10, wherein the external

communications link comprises an internet link.

12.   (Original) The system as recited in claim 10 wherein the external

communications link comprises an ethernet link.

13.   (Currently Amended) A ~~system for producing an application program for~~

a magnetic resonance imaging system, which comprises:

a magnet assembly including a polarizing magnet, a gradient coil assembly, and

an RF coil;

at least one application server coupled to the RF coil and to the gradient coil

assembly to drive the gradient coils and the RF coil to perform a magnetic resonance

imaging scan, to acquire imaging data from the scan, and to process the acquired image

data from the scan;

a memory for storing a library comprising components written in an object-

oriented programming language;

a workstation coupled to the application server for downloading program

elements to the pulse sequence server to drive the RF coil and the gradient coil assembly,

the workstation including a graphical application development system for graphically

assembling object-oriented components to provide a waveform of control pulses for

driving each of the gradient coils and the RF coil having a display, an input device and a

processor programmed to perform application development functions, the application

development program including:

a graphical building area for displaying icons representing components in the

component library and responsive to directions from a user entered through the input

device to ~~select~~ selectively graphically link icons to assemble the components into

executable medical imaging applications and to selectively modify the links during

operation of the medical imaging applications to produce and download executable

program segments which modify the medical image application in real time.

14.   (Canceled)

15.   (Original) The system as recited in claim 13 in which the icons in the

graphical building area include a property area, the property area being activated by the

input device to display properties associated with the selected component in the

properties area.

16.   (Original) The system as recited in claim 15 in which the application

development program also includes a property editor which enables a user to input data

through the input device to change property values of a component.

17 - 20.   (Canceled)

21.   (New) The application development system as defined in claim 1,

wherein the executable application segments provide a data processing pipeline.

22.   (New) The application development system as recited in claim 21, wherein the data processing pipeline comprises a fast Fourier transform and the executable application segment is selectively modifiable to provide at least one of an array of magnitude data and an array of phase data to a data processor.

23.   (New) The magnetic resonance imaging system as recited in claim 13, wherein the library of components includes a program component for downloading an executable application segment.

24.   (New) The magnetic resonance imaging system as recited in claim 13, wherein the executable application segment provides a data processing pipeline.

25.   (New) The magnetic resonance imaging system as recited in claim 24, wherein the data processing pipeline comprises a fast Fourier transform and the executable application segment is selectively modifiable to provide at least one of an array of magnitude data and an array of phase data to a data processor.